Clinical Guidelines In Primary Care

Amelie Hollier

Advanced Practice Education Associates
Second Edition
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Clinical Guidelines in Primary Care

Second Edition

Amelie Hollier, DNP, FNP-BC, FAANP

Advanced Practice Education Associates, Inc.
Acknowledgments

Sometimes it really does take a village! This book would not have been possible without the tremendous efforts, and sometime heroic efforts, of many people. Besides all our authors and reviewers, some people deserve special mention.

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<thead>
<tr>
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ATOPIC DERMATITIS
(Eczema)

DESCRIPTION

Chronic, pruritic skin eruption with acute exacerbations appearing in characteristic sites. Eczema is often used interchangeably with atopic dermatitis, but the word eczema describes acute symptoms associated with atopic dermatitis. It occurs more frequently in children but affects many adults. Commonly seen in patients with other atopic illnesses (e.g., asthma, allergic rhinitis).

ETIOLOGY

- Multifactorial: genetic, physiological, immunologic and environmental factors
- Elevated serum IgE levels
- Personal family history of allergies, asthma, allergic rhinitis

INCIDENCE

- Effects almost 10% of children
- Almost half of affected infants have initial symptoms by 6 months of age
- Begins after 2 months of age, resolves by 3 years
- 90% have remission by puberty
- Males = Females
- More common in Asians and African-Americans

RISK FACTORS

- Family history of atopic diseases
- Skin infections
- Stress
- Temperature extremes
- Contact with irritating substances (wearing new clothing prior to washing)

ASSESSMENT FINDINGS

- General: pruritus, erythema, dry skin, facial erythema, infraorbital folds (Dennie-Morgan folds); antecubital fossa, posterior patella areas; scalp area
- Infants:
  - Lesions on flexural surfaces of arms, legs, on trunk, face (especially cheeks)
  - Lesions are erythematous and papular
  - Vesicles may ooze, form crusts
- Children:
  - Lesions common in wrists, ankles and flexural surfaces
  - Presence of scales and plaques; lichenification occurs from scratching
- Adults:
  - Flexural surfaces are common sites, dorsa of the hands and feet
  - Often reappears in adulthood after absence since childhood
  - Lichenification and scaling are typical

DIFFERENTIAL DIAGNOSIS

- Contact dermatitis
- Seborrheic dermatitis
- Scabies
- Psoriasis

DIAGNOSTIC STUDIES

- Usually none needed
- Skin biopsy to rule out other skin disorders
- 80% of patients may have eosinophilia during episodes of disease activity
- Serum allergy testing is available

PREVENTION

- Prevent dry skin (liberal use of emollients is essential for good control)
- Avoid any known precipitating factors (stress, wool clothing, fragrance-free detergents, etc.)
- Wash clothing with free and clear detergents as well as fabric softeners and dryer sheets
- Keep environments as free of dust as possible
- Use of air purifiers and humidifiers may help
- Eliminate carpets, clean bedding weekly, use of mattress protectors to diminish or obliterate dust mites
- Wash bedding in water 120-130 degrees
- Humidity should be no more than 50%

Serum allergy testing reveals that dust mites in the environment pose a very high threat in causing skin allergies.

- *Dermatophagoides farinae*: American dust mite
- *Dermatophagoides pteronyssinus*: foreign dust mites

NONPHARMACOLOGIC MANAGEMENT

- Bathing is recommended with application of moisturizer after patting the skin dry but within 1-3 minutes while skin is slightly moist (pores are open 1-3 minutes)
- Superfatted soaps are best; non soap cleansers with a neutral or low PH
- Prevent skin trauma (sunburns, etc.)
- Soak for 20 minutes in warm water before applying emollient (when possible)
- Wet compresses (Burow’s solution) if lesions are weeping or oozing
- Topical corticosteroids (creams are preferred) are the mainstay of therapy (use lowest potency which controls symptoms)

**PHARMACOLOGIC MANAGEMENT**

- Topical corticosteroids (creams are preferred) are the mainstay of therapy (use lowest potency which controls symptoms)

**ATOPIC DERMATITIS PHARMACOLOGIC MANAGEMENT**

*Pediatric patients may be more susceptible to topical corticosteroid-induced HPA axis suppression than older patients because of larger skin surface area to body weight ratio. Limit use to lowest effect potency and time.*

<table>
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<th>Class</th>
<th>Drug Generic name (Trade name®)</th>
<th>Dosage How Supplied</th>
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<td>Low Potency Steroids</td>
<td>aclohexate dipropionate 0.05%</td>
<td>Adults and children &gt; 1 years: apply thin film, massage in 2-3 times/day</td>
<td>Pregnancy Category C</td>
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<tr>
<td></td>
<td>Aclovate</td>
<td>Cream, ointment: 15 g, 45 g, 60 g</td>
<td>For external use only</td>
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<td></td>
<td>fluocinolone acetonide 0.01%</td>
<td>Adults and children: apply thin film 2-4 times daily</td>
<td>Do not use longer than 3 weeks</td>
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<td></td>
<td>Synalar solution</td>
<td>0.01% solution: 15 g, 60 g</td>
<td>No adjustment in dosage needed for geriatric patients</td>
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<td>hydrocortisone butyrate 0.1%</td>
<td>Adults and children &gt; 2 years: apply thin film 2-4 times daily</td>
<td>Pregnancy Category C</td>
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<tr>
<td></td>
<td>Locoid</td>
<td>Cream/ointment: 15 g, 30 g, 45 g</td>
<td>For external use only</td>
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<td></td>
<td></td>
<td>Do not use longer than 3 weeks</td>
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<tr>
<td>Medium Potency Steroids</td>
<td>triamcinolone acetonide 0.025% or 0.1%</td>
<td>Adults and children: apply thin film 2-4 times daily</td>
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<td>Aristocort cream</td>
<td>Ointment: 0.1% (Med), 0.025% (medium/low) 15 gm, 80 gm</td>
<td>For external use only</td>
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<td>Kenalog cream, lotion, ointment</td>
<td>Cream: 0.1%, 0.025%, 15 g, 80 g</td>
<td>Use caution with use longer than 2 weeks, may change skin pigmentation</td>
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<td>desoximetasone 0.05%</td>
<td>Lotion: 0.1% (Med), 0.01% 60 mL</td>
<td><strong>Caution in pediatric patients</strong></td>
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<td>Topicort LP cream</td>
<td>Spray: 0.0147%</td>
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<td></td>
<td>flurandrenolide 0.025%</td>
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<td>Cordran</td>
<td>Cream/ointment: 30 g, 60 g</td>
<td>For topical use only</td>
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<td>Use caution with use longer than 2 weeks, may change skin pigmentation</td>
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<td>fluticasone propionate 0.05%</td>
<td>Adult: apply thin film twice a day</td>
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<td>Children &gt; 3 months: apply a thin film once or twice daily</td>
<td>Intended for topical use only</td>
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*continued*
ATOPIC DERMATITIS PHARMACOLOGIC MANAGEMENT

Pediatric patients may be more susceptible to topical corticosteroid-induced HPA axis suppression than older patients because of larger skin surface area to body weight ratio. Limit use to lowest effect potency and time.

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<td>Cutivate</td>
<td>Cream: 15 g, 30 g</td>
<td>• Use in pediatric patients for more than 4 weeks of use has not been established</td>
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<td></td>
<td>Lotion: 60 mL, 120 mL</td>
<td>• No dosage adjustment recommended for geriatric patients</td>
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<td>hydrocortisone valerate 0.2%</td>
<td>Adult: apply thin film 2-3 times daily</td>
<td>• Pregnancy Category C</td>
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<td>Children: Pediatric dosing not available</td>
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<td>Westcort</td>
<td>Cream/ointment: 15 g, 45 g, 60 g</td>
<td>• Use caution in use longer than 2 weeks, may change skin pigmentation</td>
</tr>
<tr>
<td></td>
<td>mometasone furoate 0.1%</td>
<td>Adults and children &gt; 2 years: apply thin film daily</td>
<td>• Pregnancy Category C</td>
</tr>
<tr>
<td></td>
<td>Elocon</td>
<td>Cream/ointment: 15 g, 45 g</td>
<td>• Intended for topical use only</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lotion: 30 mL, 60 mL</td>
<td>• Use caution with use longer than 2 weeks, may change skin pigmentation</td>
</tr>
<tr>
<td></td>
<td>desoximetasone 0.05%</td>
<td>Adults and children &gt; 10 years: apply thin film 2 times daily</td>
<td>• DO NOT USE WITH AN OCCLUSIVE DRESSING</td>
</tr>
<tr>
<td>*Cream = medium potency</td>
<td>Topicort</td>
<td>Cream/ointment: 15 g, 60 g, 100 g</td>
<td>• Studies demonstrate HPA axis suppression in some children</td>
</tr>
<tr>
<td></td>
<td>*Ointment = medium potency</td>
<td></td>
<td>• No dosage adjustment recommended for geriatric patients</td>
</tr>
</tbody>
</table>

**High Potency Corticosteroids**

Exert their anti-inflammatory effect through mechanical, chemical, microbiological, and immunological means

**General comments**

Use lowest potency that produces desired effect

Skin atrophy and changes in skin color are possible with long term use

Areas with greatest absorption of steroid are the face, groin, and axillae. Consider lowest potency steroids in these areas or avoid prolonged use

Topical steroids will worsen skin infections

Do not use more than 50 g/week

<table>
<thead>
<tr>
<th>Drug Name</th>
<th>Dosage How Supplied</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>amcinonide 0.1%</td>
<td>Adult: thin film 2-3 times daily</td>
<td>• Pregnancy Category C</td>
</tr>
<tr>
<td></td>
<td>Children: Pediatric dosing not available</td>
<td>• Intended for topical use only</td>
</tr>
<tr>
<td></td>
<td>Cyclocort</td>
<td>• Use caution with use longer than 2 weeks, may change skin pigmentation</td>
</tr>
<tr>
<td></td>
<td>Betamethasone dipropionate 0.05%</td>
<td>• Studies demonstrate HPA axis suppression in some children</td>
</tr>
<tr>
<td></td>
<td>Adults and children &gt; 13 years: apply thin film 1-2 times daily Max: 2 consecutive weeks</td>
<td>• No dosage adjustment recommended for geriatric patients</td>
</tr>
<tr>
<td></td>
<td>Diprolene AF</td>
<td>• Use caution with use longer than 2 weeks, may change skin pigmentation</td>
</tr>
<tr>
<td></td>
<td>Ointment/cream: 15 g, 50 g</td>
<td>• Studies demonstrate HPA axis suppression in some children</td>
</tr>
<tr>
<td>desoximetasone 0.05% gel, 0.25% cream/ointment</td>
<td>Adults and children &gt; 10 years: apply thin film twice a day</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Topicort gel</td>
<td>• Use caution with use longer than 2 weeks, may change skin pigmentation</td>
</tr>
<tr>
<td></td>
<td>Cream/gel: 15 g, 60 g</td>
<td>• Studies demonstrate HPA axis suppression in some children</td>
</tr>
<tr>
<td></td>
<td>Ointment: 30 mL, 60 mL</td>
<td>• Use caution with use longer than 2 weeks, may change skin pigmentation</td>
</tr>
</tbody>
</table>

**Super High Potency**

Exert their anti-inflammatory effect through mechanical, chemical, microbiological, and immunological means

**General comments**

Use lowest potency that produces desired effect

Skin atrophy and changes in skin color are possible with long term use

<table>
<thead>
<tr>
<th>Drug Name</th>
<th>Dosage How Supplied</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Betamethasone dipropionate</td>
<td>Adults and children &gt; 13 years: apply thin film 1-2 times daily Max: 2 consecutive weeks</td>
<td>• Pregnancy Category C</td>
</tr>
<tr>
<td>augmented 0.05%</td>
<td>Diprolene</td>
<td>• Intended for topical use only</td>
</tr>
<tr>
<td></td>
<td>Ointment: 15 g, 45 g, 60 g</td>
<td>• Use caution with use longer than 2 weeks, may change skin pigmentation</td>
</tr>
<tr>
<td></td>
<td>Lotion: 30 mL, 60 mL</td>
<td>• Studies demonstrate HPA axis suppression in some children</td>
</tr>
<tr>
<td></td>
<td>Gel: 15 g</td>
<td>• Use caution with use longer than 2 weeks, may change skin pigmentation</td>
</tr>
</tbody>
</table>
ATOPIC DERMATITIS PHARMACOLOGIC MANAGEMENT

Pediatric patients may be more susceptible to topical corticosteroid-induced HPA axis suppression than older patients because of larger skin surface area to body weight ratio. Limit use to lowest effect potency and time.

<table>
<thead>
<tr>
<th>Class</th>
<th>Drug name</th>
<th>Dosage How Supplied</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Areas with greatest absorption of steroid are the face, groin, and axillae. Consider lowest potency steroids in these areas or avoid prolonged use</td>
<td>Diprolene</td>
<td>Ointment: 15 g, 45 g, 60 g Lotion: 30 mL, 60 mL Gel: 15 g</td>
<td>No dosage adjustment recommended for geriatric patient</td>
</tr>
<tr>
<td>Topical steroids will worsen skin infections</td>
<td>clobetasol propionate 0.05%</td>
<td>Adults and children ≥ 12 years: apply thin film twice a day Max: 50 g/week</td>
<td>Pregnancy Category C Intended for topical use only Use caution with use longer than 2 weeks, may change skin pigmentation Studies demonstrate HPA axis suppression in some children No dosage adjustment recommended for geriatric patients</td>
</tr>
<tr>
<td>Do not use more than 50 g/week</td>
<td>Temovate cream, gel, ointment, scalp, emollient Clobex, Cormax</td>
<td>Cream/Ointment: 15 g, 30 g, 45 g, 60 g Solution: 50 mL Foam: 100 g Scalp emollient: 50 mL</td>
<td></td>
</tr>
<tr>
<td></td>
<td>flurandrenolide 4 mcg/sq cream</td>
<td>Adult: apply q 12-24 hr</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cordran</td>
<td>Tape: 3” x 24” and 3” x 80”</td>
<td></td>
</tr>
<tr>
<td></td>
<td>halobetasol propionate 0.05%</td>
<td>Adults and children &gt; 12 years: apply thin layer twice a day Max: 50 g/week</td>
<td>Pregnancy Category C Intended for topical use only Use caution with use longer than 2 weeks, may change skin pigmentation Do not use with occlusive dressings No dosage adjustment recommended for geriatric patients</td>
</tr>
<tr>
<td></td>
<td>Ultravate</td>
<td>Cream/Ointment: 15 g, 50 g</td>
<td></td>
</tr>
</tbody>
</table>

CONSULTATION/REFERRAL
- Dermatologist or nurse practitioner
- Allergist

FOLLOW UP
- Initial treatment and at 2 weeks, then 6-8 weeks
- Follow up is important to assure that patient is improving and steroid medication is not being overused for prolonged periods. Education is vitally important for parents/patients. If flare is severe, may have to begin with a stronger steroid for 2 weeks and then decrease potency or, topical calcineurin inhibitors such as Elidel or Protopic. Daily moisturization is important

EXPECTED COURSE
- Waxes and wanes; expect flaring

POSSIBLE COMPLICATIONS
- Secondary infection: (if child presents with excoriations most likely will need to be treated for a skin infection; eczema will be slow to improve if infection is not treated)
- Steroid atrophy
DESCRIPTION

- Depression is a constellation of signs and symptoms that have multi-factorial causes including life circumstances, biological predisposition and epigenetic influences. Disturbances in cognitive, emotional, behavioral, and somatic regulations are involved. Depressed mood, and loss of interest or pleasure are the major symptoms.
- Suicide is self-inflicted death. Attempted suicide is a potentially lethal act that does not result in death.

Anhedonia is a loss of pleasure or interest in things which had previously given joy or pleasure. To diagnose depressive disorders, the patient must exhibit depression and/or anhedonia along with other specifiers.

ETIOLOGY

- Impaired synthesis and/or metabolism of the neurotransmitters norepinephrine, serotonin, dopamine and/or other neurotransmitters.
- GABA and glutamate (especially NMDA) and other neurotransmitters affecting the structural integrity of the brain as possible factors or contributing factors for depression.
- Evidence indicates genetic predisposition (30-40%).
- 60-70% are related to individual; specific environmental effects including adverse events in childhood and ongoing or recent stress due to interpersonal adversities, (childhood sexual abuse, other lifetime trauma, decreased or absent social support, and marital issues).

Serotonin produces calmness and relaxed states of being.
Norepinephrine and dopamine enhance productivity, ambition, concentration and ability to feel pleasure.
GABA is the neurotransmitter that exerts effects on feelings of calmness.
Glutamate (NMDA) is an excitatory neurotransmitter.

INCIDENCE

- Depression:
  - Will affect 5-20% of the U.S. population at some time
  - 1.5-3 times more common among those with an affected first-degree relative
  - Affects 2% of preadolescents and 5% of adolescents in the U.S.
  - The World Health Organization expects depression to be the leading cause of disability worldwide by 2020.

- Suicide:
  - Successful suicide: Males > Females
  - Suicide attempts: Females > Males
  - 9-18% of preadolescents with nonpsychiatric diagnoses entertain suicidal ideations.

RISK FACTORS

- Female gender
- Psychosocial stressors
- Postpartum period
- Physical or chronic illness, especially migraines and back pain
- Prior episodes of depression and suicide attempts
- Family history of suicide
- Alcohol or substance abuse
- Children with a history of being bullied or other forms of abuse
- Retirement, aging, significant losses (death of a spouse, loss of a job, divorce, etc.)

ASSESSMENT FINDINGS

- Children:
  - Anorexia
  - Sleep disturbance
  - Apathy and sluggishness
  - Developmental delay
  - Anxiety, irritability, cries easily, restlessness
  - Aggression, hyperactivity
  - School problems
  - GI or other somatic complaints
  - Poor self esteem
  - Cognitive dulling
  - Suicidal thoughts or self-injury
  - Withdrawal or increased clinging behaviors

- Adolescents:
  - Similar to adults
  - Impulsivity
  - Fatigue
  - Hopelessness
  - Substance abuse

- Adults:
  - Depressed mood for two weeks or longer and/or anhedonia; at least one of these MUST be present
  - Decreased or increased appetite
  - Weight loss or gain
  - Sleep disorder
  - Psychomotor agitation or retardation
  - Fatigue, loss of energy
  - Feelings of worthlessness, inappropriate guilt
  - Recurrent thoughts of death
  - Difficulty thinking/concentrating or indecisiveness

In adults, depression is likely if the patient experiences anhedonia or depression and (any 4 or more of the following): change in appetite, sleep pattern, fatigue, psychomotor retardation or agitation, poor self-image, difficulty concentrating, or suicidal ideation. There is a need to distinguish grief from a true depressive episode.
DIFFERENTIAL DIAGNOSIS

- **Children:**
  - Bipolar disorder
  - Attention deficit disorder
  - Separation anxiety
  - Chronic physical illness
  - Conduct disorder
  - Physical or sexual abuse
  - PTSD
  - Substance abuse
  - Organic causes

- **Adults:**
  - Bipolar disorder
  - Substance abuse
  - Physical illness: organic brain diseases, diabetes, liver, or renal failure
  - Grief reaction
  - Other psychiatric disorders
  - Medication abuse/use
  - Medication withdrawal
  - Hypothyroidism, B12 deficiency
  - Dementia

DIAGNOSTIC STUDIES

- **Structured interviews/questionnaires:**
  - The Children’s Depression Inventory
  - Children’s Depression Scale
  - Depression Self-Rating Scale
  - DSM 5 cross cutting tools for depression (PROMIS) in children (6-17), adolescents (11-17) and adults
  - Patient Health Questionnaire 9 (PHQ-9) (available in a modified form for adolescents)
  - Beck’s Depression Inventory
  - Child Behavior Checklist for ages 4-18 Years
  - Pediatric symptom checklist
  - Zung self-rating depression scale
  - Geriatric depression scale

Laboratory studies do not diagnose depression, but are used to rule out other conditions.

- **Laboratory studies:**
  - TSH to rule out hypothyroidism
  - Urine drug screen for substance use disorders
  - ECG as baseline to rule out arrhythmias or heart block before instituting tricyclic antidepressants (TCAs)
  - Consider fasting blood sugar, Vitamin D, Vitamin B12 and folate levels
  - Some genetic testing is available to help the practitioner with selection of specific psychotropic medications that are metabolized via the CYP 450 system. This is especially important in patients who have failed to respond adequately to multiple trials of antidepressants

TCA may provoke arrhythmias in patients with subclinical sinus node dysfunction.

PREVENTION

- Maintain a high index of suspicion in adolescents and adults with family or personal history of depression, suicide attempts (especially within the previous five years), chronic illness and/or recent loss
- Question persons suspected of suicide intent regarding plan, lethality and availability of method
- Routine questioning regarding use of alcohol and drugs starting during adolescence and extending into the lifespan. Consideration should be given to include any school age child in questioning about alcohol and drugs as well

NONPHARMACOLOGIC MANAGEMENT

- Identify suicidal risk, plan, lethality, availability and intent
- Establish safe environment: ensure patient safety in least restrictive environment
  - Obtain a “commitment to treatment statement with a crisis response plan” directed at planned responses to addressing behaviors when suicidal urges are present
- Provide community resources, suicide hotline
- Suicide threats should be interpreted as a communication of desperation and are to be taken seriously; know your state’s involuntary commitment laws and related APRN scope of practice
- Psychoeducation
  - Ongoing information regarding illness, symptoms, prognosis, and therapy
  - Include interpersonal relationships, work, other health related needs
  - Discourage major life changes while in a depressive state
  - Help set realistic, attainable, concrete goals
  - Educate regarding importance of avoiding alcohol
- Psychotherapy
  - The treatment of choice with or without pharmacological interventions in mild to moderate depression
  - Establish and maintain a supportive therapeutic relationship
  - Remain available during times of crisis
  - Maintain vigilance for signs of destructive impulses
  - Strengthen expectations of help and hope for the future
  - Enlist support of others in patient’s social network
- Electroconvulsive therapy (ECT)
  - Indicated for depression in which a rapid antidepressant response is imperative: depression coupled with psychotic features, catatonic stupor, mania, severe suicidality, suicidality in pregnancy, or severe nutritional compromise
  - Indicated for patients who prefer this method of treatment, or who have responded unsatisfactorily to antidepressant medication in the past
  - High rate of therapeutic success
Chief side effect is transient postictal confusional state, and memory impairment which resolves in a few days.

- **Light therapy**
  - Particularly effective for seasonal affective disorder
  - Exposure to bright white artificial light for 30 minutes or more in morning and/or evening
  - May be used along with pharmacotherapy

- **Transcranial magnetic stimulation (TMS)**
  - Used for treatment resistant depression
  - Side effects are significantly reduced
  - Treatment is 4-5 times a week for 4-6 weeks

- **Vagus nerve stimulation (VNS)**
  - Approved for adult patients with long-term or recurrent major depression
  - Requires surgical implantation of a stimulator that runs from the collarbone to the vagus nerve in the neck

**Psychotherapeutic interventions in conjunction with pharmacologic therapy are superior to either when used alone in moderate to severe depression.**

**PHARMACOLOGIC MANAGEMENT**

- Determine coexisting substance use disorders and general medical conditions
- Selective serotonin reuptake inhibitors (SSRI)
- Serotonin norepinephrine reuptake inhibitors (SNRI)
- Novel antidepressants
- Tricyclic antidepressants (TCA)
- Monoamine oxidase inhibitors are not used first or second line because of numerous food and drug interactions. These drugs are usually prescribed by psychiatric specialists
- Atypical antipsychotics may be used to augment poor response to antidepressants alone. It is important to note that these are powerful medications and should be monitored for side effects common to all antipsychotics

- **TCAs and SSRIs/SNRIs are equally efficacious but the SSRIs have a better side effect profile and would not be fatal if a month’s supply were taken at once.**
- **All antidepressants carry a black box warning regarding suicidal thoughts and urges in children, adolescents and young adults.**

**ANTIDEPRESSANT PHARMACOLOGIC MANAGEMENT**

<table>
<thead>
<tr>
<th>Class</th>
<th>Drug</th>
<th>Generic name</th>
<th>Dosage How Supplied</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Selective Serotonin Reuptake Inhibitors (SSRIs)</td>
<td>fluoxetine</td>
<td>Adult: 20 mg PO once daily</td>
<td>Pregnancy Category C</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Increase dose after several weeks if insufficient clinical response. Doses greater than 20 mg may be administered as single or twice daily dosing</td>
<td>Avoid in patients with uncontrolled narrow angle glaucoma</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Max: 80 mg daily</td>
<td>No dosage adjustment recommended for renal dysfunction or elderly. However, elderly may have greater sensitivity</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Children 8-17 years: Initial: 10-20 mg PO daily</td>
<td>Monitor for weight change during treatment</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>If started on 10 mg/d, increase after 1 week to 20 mg/d</td>
<td>May alter glycemic control during treatment</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lower weight children: start at 10 mg/d PO; may increase after several weeks to 20 mg/d</td>
<td>(hypoglycemia during use, hyperglycemia after discontinuing)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Prozac</td>
<td>Tabs: 10 mg, 20 mg, 40 mg</td>
<td>Discontinuation should take place gradually rather than abruptly</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Solution: 20 mg/5 mL</td>
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<tr>
<td></td>
<td></td>
<td>Prozac weekly</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Caps: 90 mg e-c delayed release pellets</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Pregnancy Category C</td>
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<td></td>
<td></td>
<td></td>
<td>Used in maintenance phase</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>Start 7 days after last dose of fluoxetine 20 mg when switching from daily dose</td>
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</tr>
</tbody>
</table>

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## ANTIDEPRESSANT PHARMACOLOGIC MANAGEMENT

<table>
<thead>
<tr>
<th>Class</th>
<th>Drug</th>
<th>Generic name</th>
<th>Dosage</th>
<th>How Supplied</th>
<th>Comments</th>
</tr>
</thead>
</table>
| Treatment should be sustained for 6-18 months with the first episode of major depression | citalopram | Adult: 20 mg PO once daily. May increase to 40 mg PO daily after at least one week in between dose increases | Elderly and hepatic impairment: 20 mg PO daily; 40 mg/d PO only for non-responding patients | Max: 60 mg daily | • Pregnancy Category C  
• At least 14 days should elapse between MAO inhibitor and administration of citalopram  
• Avoid in patients with uncontrolled narrow angle glaucoma  
• No dosage adjustment necessary for renal impairment  
• Discontinuation should take place gradually rather than abruptly  
• Keep dose at lowest effective dose secondary to QT prolongation |
| Avoid alcohol when taking SSRIs |            |              |        |              |          |
| May cause decrease in libido |            |              |        |              |          |
| Do not administer to patients within 5 weeks of taking MAO inhibitors |            |              |        |              |          |
| Cerlexa | Tabs: 10 mg, 20 mg, 40 mg | | | | |
| escitalopram | Adult: 10 mg PO once daily. May increase in one to two weeks | Max Adults: 20 mg PO daily  
Max Elderly: 10 mg PO daily | Note: Requires gradual tapering to discontinue | Children > 12: Dosing is the same as adult dosing except increase should be delayed until after three weeks | Not approved in patients under 12 years of age | • Pregnancy Category C  
• Avoid in patients with uncontrolled narrow angle glaucoma  
• No dosage adjustment recommended for renal dysfunction or elderly. However, elderly may have greater sensitivity  
• Prolongs the QT interval  
• Watch for hyponatremia  
• Discontinuation should take place gradually rather than abruptly |
| paroxetine | Adult: Initial: 20 mg PO in morning; may increase dose in 10 mg increments at 1 week intervals | Max: 50 mg daily | Elderly, debilitated: Initial: 10 mg PO | Max: 40 mg PO daily | | • Pregnancy Category D  
• At least 14 days should elapse between MAO inhibitor and administration of paroxetine  
• Avoid in patients with uncontrolled narrow angle glaucoma  
• Cautious use in history of seizures  
• Discontinuation should take place gradually rather than abruptly; consider a 10 mg/d at weekly intervals before discontinuing |
| Paxil | Tabs: 10 mg, 20 mg, 30 mg, 40 mg | Suspension: 10 mg/5 mL | | | | |
| Paxil CR | Adult: Initial: 25 mg PO daily; adjust by 12.5 mg/d PO at weekly intervals | Max: 62.5 mg/d | Elderly, debilitated: Initial: 12.5 mg/d PO | Max: 50 mg/d PO | | • See paroxetine |
| sertraline | Adult: 50 mg PO daily in AM or PM; may increase at 1 week intervals | Max: 200 mg/d PO | | | | • Pregnancy Category C  
• At least 14 days should elapse between MAO inhibitor and administration of citalopram  
• Avoid in patients with uncontrolled narrow angle glaucoma |

*continued*
<table>
<thead>
<tr>
<th>Class</th>
<th>Drug Name</th>
<th>Dosage How Supplied</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zoloft</td>
<td><em>Tabs: 25 mg, 50 mg, 100 mg</em>&lt;br&gt;<em>Oral concentrate: 20 mg/mL</em></td>
<td>• No dosage adjustment necessary for renal impairment&lt;br&gt;• Need dosage adjustment for hepatic dysfunction&lt;br&gt;• Dilute oral concentrate before administering in 4 oz. water, ginger ale, lemon/lime soda, orange juice</td>
<td></td>
</tr>
<tr>
<td>Serotonin and Norepinephrine Reuptake Inhibitors (SNRIs)</td>
<td>Duloxetine&lt;br&gt;<em>Adult: 60 mg PO once daily</em>&lt;br&gt;<em>Alternative: 30 mg PO once daily for one week, then increase to 60 mg once daily</em>&lt;br&gt;<em>Max: 120 mg PO but no evidence doses &gt; 60 mg PO confer greater benefit</em></td>
<td>• Pregnancy Category C&lt;br&gt;• May increase the risk of suicidal thinking and behavior in patients with major depressive disorder&lt;br&gt;• Do not administer to patients taking MAO inhibitors&lt;br&gt;• Avoid in patients with uncontrolled narrow angle glaucoma&lt;br&gt;• May be given without regard to meals&lt;br&gt;• Increased risk of bleeding with NSAIDs, aspirin, warfarin&lt;br&gt;• Do not prescribe for patients with substantial alcohol use&lt;br&gt;• Monitor for orthostatic hypotension and syncope within first week of therapy</td>
<td></td>
</tr>
<tr>
<td>General comments</td>
<td></td>
<td>Antidepressants increase the risk of suicide in adolescents and young adults &lt; 24 years. Close monitoring by family members and caregivers is advised especially during the first few months of treatment</td>
<td></td>
</tr>
<tr>
<td>Cymbalta</td>
<td><em>Caps: 20 mg, 30 mg, 60 mg caps</em></td>
<td>• May increase the risk of suicidal thinking and behavior in patients with major depressive disorder&lt;br&gt;• Do not administer to patients taking MAO inhibitors&lt;br&gt;• Avoid in patients with uncontrolled narrow angle glaucoma&lt;br&gt;• May be given without regard to meals&lt;br&gt;• Increased risk of bleeding with NSAIDs, aspirin, warfarin&lt;br&gt;• Do not prescribe for patients with substantial alcohol use&lt;br&gt;• Monitor for orthostatic hypotension and syncope within first week of therapy</td>
<td></td>
</tr>
<tr>
<td>Venlafaxine</td>
<td><em>Adult: 37.5-375 mg PO daily in divided doses with food; should taper this medication over a minimum of a two week time frame</em></td>
<td>• Pregnancy Category C&lt;br&gt;• May increase the risk of suicidal thinking and behavior in patients with major depressive disorder&lt;br&gt;• Do not administer to patients taking MAO inhibitors&lt;br&gt;• Avoid in patients with uncontrolled narrow angle glaucoma&lt;br&gt;• May be given without regard to meals&lt;br&gt;• Increased risk of bleeding with NSAIDs, aspirin, warfarin&lt;br&gt;• Do not prescribe for patients with substantial alcohol use&lt;br&gt;• Monitor for orthostatic hypotension and syncope within first week of therapy</td>
<td></td>
</tr>
<tr>
<td>Venlafaxine ER</td>
<td><em>Adult: 75-225 mg PO daily with food; taper dose by no more than 75 mg PO per week to discharge</em></td>
<td>• Pregnancy Category C&lt;br&gt;• May increase the risk of suicidal thinking and behavior in patients with major depressive disorder&lt;br&gt;• Do not administer to patients taking MAO inhibitors&lt;br&gt;• Avoid in patients with uncontrolled narrow angle glaucoma&lt;br&gt;• May be given without regard to meals&lt;br&gt;• Increased risk of bleeding with NSAIDs, aspirin, warfarin&lt;br&gt;• Do not prescribe for patients with substantial alcohol use&lt;br&gt;• Monitor for orthostatic hypotension and syncope within first week of therapy</td>
<td></td>
</tr>
<tr>
<td>Effexor XR</td>
<td><em>Caps: 37.5 mg, 75 mg, 150 mg caps</em></td>
<td>• Pregnancy Category C&lt;br&gt;• May increase the risk of suicidal thinking and behavior in patients with major depressive disorder&lt;br&gt;• Do not administer to patients taking MAO inhibitors&lt;br&gt;• Avoid in patients with uncontrolled narrow angle glaucoma&lt;br&gt;• May be given without regard to meals&lt;br&gt;• Increased risk of bleeding with NSAIDs, aspirin, warfarin&lt;br&gt;• Do not prescribe for patients with substantial alcohol use&lt;br&gt;• Monitor for orthostatic hypotension and syncope within first week of therapy</td>
<td></td>
</tr>
<tr>
<td>Tricyclic Antidepressants</td>
<td>Amitriptyline&lt;br&gt;<em>Adult: 75 mg PO in divided doses in late afternoon or at bedtime</em>&lt;br&gt;<em>Alternate: 50 to 100 mg at bedtime.</em>&lt;br&gt;<em>May increase by 25-50 mg</em>&lt;br&gt;<em>Max: 150 mg/d</em>&lt;br&gt;<em>Elderly and adolescents: 10 mg PO three times daily</em>&lt;br&gt;<em>Alternate: 20 mg PO at bedtime</em></td>
<td>• Pregnancy Category C&lt;br&gt;• Prescribe smallest amount feasible. Deaths may occur from overdosage with this class of medications&lt;br&gt;• May cause sedation. Administer at bedtime if feasible&lt;br&gt;• Do not administer to patients taking MAO inhibitors&lt;br&gt;• Cautious use in patients with cardiovascular disorders. May cause sinus tachycardia, prolonged QT interval, or arrhythmias&lt;br&gt;• Close supervision if given to patients with hyperthyroidism or being treated for hyperthyroidism&lt;br&gt;• When possible, should be discontinued prior to elective surgery&lt;br&gt;• Fluctuations in blood sugar are possible&lt;br&gt;• Cautious use in patients with hepatic dysfunction</td>
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<tr>
<td>Elavil</td>
<td><em>Tabs: 10 mg, 25 mg, 50 mg, 75 mg, 100 mg, 150 mg</em></td>
<td>• Pregnancy Category C&lt;br&gt;• May increase the risk of suicidal thinking and behavior in patients with major depressive disorder&lt;br&gt;• Do not administer to patients taking MAO inhibitors&lt;br&gt;• Avoid in patients with uncontrolled narrow angle glaucoma&lt;br&gt;• May be given without regard to meals&lt;br&gt;• Increased risk of bleeding with NSAIDs, aspirin, warfarin&lt;br&gt;• Do not prescribe for patients with substantial alcohol use&lt;br&gt;• Monitor for orthostatic hypotension and syncope within first week of therapy</td>
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*continued*
ANTIDEPRESSANT PHARMACOLOGIC MANAGEMENT

<table>
<thead>
<tr>
<th>Class</th>
<th>Drug Generic name (Trade name®)</th>
<th>Dosage How Supplied</th>
<th>Comments</th>
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| Norepinephrine and Dopamine Reuptake Inhibitors | bupropion | Adult: 150 mg PO initially with target of 300 mg daily given in the AM. If tolerated, can increase to 300 mg as soon as 4 days after starting 150 mg PO dose | • Pregnancy Category C  
• Full antidepressant effect may not be seen for 4 weeks  
• Dosage adjustment in patients with renal or hepatic dysfunction  
• Contraindicated in seizure disorder, current or prior diagnosis of bulimia  
• Contraindicated in patients undergoing abrupt cessation of alcohol or benzodiazepines |
|                                    | Wellbutrin XL                    | Tabs: 150 mg, 300 mg                          |                                                                          |
|                                    | Wellbutrin SR                    | Adult: 150 mg PO given in AM initially. Target of 300 mg PO daily given in divided doses. Must separate twice daily doses by 8 or more hours. If tolerated, can increase to 300 mg in divided doses as soon as 4 days after starting 150 mg dose.  
Max: 200 mg given twice daily |                                                                          |
|                                    |                                  |                                              |                                                                          |

CONSULTATION/REFERRAL

- Psychiatrist or psychiatric APRN if patient has suicide plan, or for ECT if severe major depression is coupled with psychosis, nutritional compromise, or suicidality. Make appointment and referral at time of visit
- Indications for inpatient psychiatric treatment:
  - Unable to adequately care for self or cooperate with outpatient treatment
  - Have suicidal or homicidal ideation and plan, particularly if method is violent
  - Lack of psychosocial support
  - Complicating psychiatric or medical conditions that make outpatient treatment unsafe

In the elderly, depression often coexists with dementia.

EXPECTED COURSE

- 60-70% response rates to antidepressants of all classes
- Patients take 4-6 weeks to fully respond to medication management
- The most common reason for antidepressant failure in primary care is an inadequate dosage, inadequate trial or inadequate length of time staying on the medication. If there is some symptom relief within the first few weeks, it is prudent to continue to push the medication dosage up slowly until the maximum dosage is reached before adding anything else. If there is no response by 3-4 weeks, switching agents is suggested. After three or more attempts at finding an antidepressant that is efficacious, a psych referral should be considered
- It is important to remember that depression should be treated to remission, not simply some symptom relief
- High relapse rate during the first 8 weeks after resolution of symptoms

POSSIBLE COMPLICATIONS

- Suicide: overdose of tricyclics is potentially lethal
- Bizarre behavior may endanger social relationships and reputation
- Complicating psychiatric or medical conditions
- Substance abuse resulting from attempts to self-medicate

Unidentified bipolar disorder: most patients with bipolar disorder will present with depressive symptoms not with mania. Careful screening is critical, as antidepressants can cause mania.
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